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Larri, L J & Newlands, M (In press) **Knitting Nannas and Frackman: A Gender Analysis of Australian Anti-Coal Seam Gas Documentaries (CSG) and Implications for Environmental Adult Education**. *The Journal of Environmental Education*

Frackman (FM) and *Knitting Nannas (KN)* are two documentaries about the anti-coal seam gas movement in Australia. *Frackman* (2015) features a former construction worker turned eco-activist Dayne Pratzky (DP) fighting coal seam gas extraction. *Knitting Nannas* (2014) follows a group of women also protesting this. In this article we set a challenge to environmental adult educationists to expose gender agendas embedded in environmental education documentaries. A scene-by-scene analysis of these two documentaries through a poststructuralist ecofeminist evaluation reveals there are lessons to be learnt due to the repetition of gender blindness in *FM*; whilst *KN* offers potential solutions for greater inclusivity in environmental education. The article concludes with recommendations for community-based approaches in environmental adult education.

Keywords: coal seam gas, fracking, environmental adult education, ecofeminism, poststructuralism, Knitting Nannas, Frackman, Nannagogy

Introduction

Coal Seam Gas (CSG) extraction forces pressure through bedrock to extract gas trapped in rock seams, and is more commonly known as Fracking. Fracking is a global phenomenon. It

began in Australia in 1996. This new process of producing gas for the energy industry has spawned opposition and environmental protests across the globe. In Australia there are numerous environmental activist groups and individuals blockading against Fracking. Lock the Gate, Knitting Nannas Against Gas, Growling Grannies, The Australian Greens political party, individuals (Dayne Pratzky (henceforth DP), the Bender Family), and rural communities who are affected by the gas fields. Every group is unified in non-violent direct action to educate the wider community about the health impacts of Fracking.

In Australia, two documentaries about anti-fracking protest, *Frackman* (henceforth referred to as *FM*, 2015) and Knitting Nanna's (2014) (henceforth referred to as *KN*) are tools to educate about CSG. However, as we will see, there is evidence of gender blindness, unequal power relations in representation, and contradictory knowledge structures that has consequences for learning about CSG.

Gender blindness is a failure to distinguish between genders leading to female representations being excluded from a narrative. In this article we make suggestions to aid environmental teaching and learning that show how poststructuralism can help identify gender blindness within power relations of representation. We do this through a comparative study of gender representations in the two documentaries, *KN* and *FM*. Each looks at the environmental activist movements around coal seam gas (CSG) extraction.

The *KN* documentary is about the Knitting Nannas Against Gas (henceforth KNAG) movement. KNAG is affiliated with the Lock the Gate anti-fracking alliance and is an autonomous movement made up of mature women aged 60 years and older across Australia. KNAG describes an example of environmental activism that is centred on "older women" - a gynocentric expression. Older women are not typically identified as environmental protesters and generally remain invisible as activists, making KNAG unusual. Today, there are

approximately 40 groups (or ‘loops’) since the beginning in 2012 in Australia and a handful in the UK and USA.

FM is a documentary that is male-centred (i.e. androcentric) in its approach by focusing on the solo journey of DP, and his antics and tactics to outwit the CSG industry. DP owned land earmarked by the energy industry as part of their gas-fields in south east Queensland. DP lived in the rural town of Tara, with a population of 2,211 (2011)ⁱ and the documentary follows him as he learns about CSG, attempts to stop the expansion of gas fields and reduce the impact on this rural community.

Each documentary indicates ways in which adults have gone through learning processes to become environmental activists and thus provides an example of how film can be a useful educative tool in informal community-based settings. Our suggestions for the use of film and its implications for environmental adult education in the 21st Century are discussed. In this article we set a challenge to environmental educators to be inclusive and apply poststructural gender analysis to avoid the trap of gender blindness. We apply Gough’s four guiding principles to assist in recognising women in environmental education. The four principles are (Gough, 1999, p.153):

- (1) To recognise that knowledge is partial, multiple and contradictory
- (2) To draw attention to the racism and gender blindness in environmental education
- (3) To develop a willingness to listen to silenced voices and to provide opportunities for them to be heard; and
- (4) To develop understandings of the stories of which we are part and our abilities to deconstruct them.

Taking Gough's principles, our comparison uses a poststructuralist ecofeminist analysis to expose and understand the gender agendas embedded in both documentaries. Applying this analysis of the two anti-CSG documentaries offers insights into the representation of the *KN* and *FM* that inform how we learn about the CSG industry and anti-fracking social movements in Australia. In our analysis we seek to find out, 'What and how the adult characters are learning?'; 'Is there evidence of power dynamics between the genders? And 'Is there any evidence of gender blindness? The purpose of using poststructuralism is to show how gender issues underscore the usefulness of film for informal community-based environmental education. We draw on these theoretical positions to analyse how the two documentaries could be used as educative tools.

In the first section we outline: what is CSG; connect gender with environmental issues; and explain and define environmental adult education, poststructuralism, ecofeminism, eco-logics, and ecofeminist teaching and learning. Our analysis and discussion will show how environmental activist documentaries are useful in revealing gender-blindness and providing alternative, inclusive ways of approaching informal environmental adult education.

What are Coal Seam Gas (CSG) and Fracking?

CSG extraction involves injecting high pressure fluid into gas seams in rock beds to loosen up and extract petroleum resources such as oil or natural gas. It is also referred to as 'hydraulic fracturing' or 'fracking' (Merriam-Webster; O'Connor, 2015, p.7; Tosh and Gislason, 2016, p. 2). CSG has emerged as a major environmental concern in many countries. Germany, Scotland, Wales, and the USA states of California, Texas, Ohio and Hawaii have all banned fracking. Bans have been put in place over concerns for food

security, biodiversity, water security and purity and human health issues and community cohesion (Ollis and Hamel-Greene, 2015, Tosh and Gislason, 2016). Australian activists have similar concerns to those around the world, given that much of the land targeted for CSG exploration is in agricultural and rural communities. CSG is 27% of Australia's gas reserves, and CSG "is set to supply at least 30 per cent of the whole nation's domestic market by 2030, and 50 per cent of gas demand in eastern Australia" (SBS, 2013). The Australian states of New South Wales and Queensland hold the largest CSG reserves in Australia, and where most of the environmental activism is currently taking place. There are also reserves in the Northern Territory, Victoria and Western Australia. The Victorian government extended their moratorium on banning onshore fracking to permanently prohibiting CSG extraction (August, 2016). However, the Victorian Government also continue to grant licences for offshore CSG extraction projects. Events in Australia are a snapshot of larger concerns over climate change and in particular the impacts on women.

Connecting gender and environmental issues

Fracking has been identified as breaching international human rights law. An example is the Convention on the Elimination of All Forms of Discrimination against Women (2016) which connects the rights of women to adequate living conditions (e.g. water, housing), and public participation in contributing to decision-making that affects them. The United Nations Framework Conventions on Climate Change (UNFCCC, 2014) takes these rights further by recognising the challenges facing humanity due to climate change and in particular the impact on women. At the Conference of Partiesⁱⁱ 18 (2012, Doha, 23/CP.18) agreement was reached on strategies to promote gender balance and improve the participation and representation of women in climate negotiations. An acknowledgement that earlier climate

mitigation and adaptation policies have been gender-blind is being redressed by the UNFCCC. They are adamant that women need to be recognised in the climate change debate as the future depends on engaging women in environmental activism at all levels to fully address the challenges of climate change (IUCN, UNDP, & GGCA, 2009).

Whitehouse (2015) writes about the implications of climate change for environmental education. She considers that:

... in terms of citizenship, the more limited participation of women in negotiations and climate change decision-making hampers women's capacity to put forward their views and solutions. Educators have to pay attention to gender (again) and to rising inequities, especially between those who have citizenship rights and those who do not. (pp. 19, 21)

Environmental Adult Education and Learning

We are seeking to establish how environmental activist documentaries can be useful tools in adult environmental education. We draw on theories of adult learning as distinct from child learning, in our study of the two documentaries (*FM & KN*). Merriam and Bierema describe how adult learning became differentiated from childhood learning, each with their own robust theories (2013 pp. 44-46). Adults come to new educational situations, either formal or informal, with a wealth of learning. Adults are not a blank slate (*tabula rasa*). They reflect and build on their life experiences whatever they may have been, from school and post-school education to relationships, jobs, community affiliations (sports teams, religious connections) and so on.

Malcolm Knowles identifies attributes of adult learners as adults need for: autonomy; self-directedness; learning through experience (of oneself and others); as and when the need

arises (i.e. for specific purposes or to solve a problem); and generally being intrinsically motivated (i.e. for self-esteem or self-confidence rather than salary increase or promotion), (1984 quoted in Welton, 1991, p.99). McGill and Beatty describe key elements of adult learning as an intentional, conscious, reflective, collaborative and social process that integrates cognitive (knowing), conative (doing) and affective (feeling) aspects of ourselves (1992, p.172). Importantly these elements give adults insights about preferred learning styles i.e. learning about learning. In this article we see adult learning principles thought of as, just-in-time, just-for-me, just in the way I need it, with a dash of critical reflection and creative problem solving.

Clover, Jayme, Hall and Follen have expanded on the principles of adult learning to incorporate feminist and critical adult education with ecological knowledge. They have developed the definition of environmental adult education used in this article i.e. that, “environmental adult education focuses specifically on learning and teaching for a more just, equitable, equal, healthy and sustainable world” (2012, pp. 10, 11). Clover *et al* argue that a political orientation is necessary and ground their approach in environmental citizenship. Integral to this definition is the objective of environmental adult education as learning to actively champion for the environment and to change society. They say:

We framed citizenship as not only rights, responsibilities and duties people have towards one another, but also towards the rest of nature and the planet itself.

Environmental citizenship, drawing from feminist and critical adult education, is people as actors who can influence not only the context of environmental decision-making but policy-making vis-à-vis natural resources (2012, p. 27).

By following the Clover *et al* definition, we argue that the CSG protests can be seen as an important development in environmental adult education.

Ollis and Hamel-Green (2015) studied CSG protesters in Gippsland (Victoria, Australia) in relation to activism and adult learning. They argue that “the situated site of protest is a rich space for adult learning to occur” and “learning in activism is a rich tradition of adult education practice but that research in relation to coal seam gas is limited” (p. 218). We consider that this fits the definition of environmental adult education, and hope to add to this much under-researched area.

Our position is that environmental adult education and ecofeminism are symbiotic and coupled with adult learning principles they provide an all-embracing description of the core values of environmental activism. Furthermore, using a poststructuralist ecofeminist analysis, we hope to draw out some practical recommendations for inclusivity applicable to environmental adult education.

Post-structuralism, Ecofeminism and Eco-logics

Post-structuralism

Post-structuralism is about going beyond (i.e. ‘post’) established paradigms or accepted ‘structures’. A typical ‘structuralist’ analysis is traditional Marxist thinking where the power relations between the working classes and those above them are challenged to promote greater social and economic equity. Post-structuralism takes Marxist ideology as its foundation, and then goes beyond Marxist ‘us and them’ (or binary) analysis to focus on who holds power and how they socially construct society by defining knowledge. This power/knowledge (Foucault, 1977) nexus affects how we learn about ourselves, society and culture. Our individual identities are defined by the different contexts in which we live our lives, our subjective experience. Foucault saw power as part of everything and as all

encompassing, power is the foundation in formal institutions as well as social and cultural spheres, such as family, education, health, and the male/female binary.

A poststructuralism interpretation lets us analyze if female characters in the *KN* documentary are given equal power in educating and influencing as DP is in *FM*, or do neither of them hold any power in shaping general knowledge of CSG? Power here is also equal to representation, because whoever holds power is also in a position to influence and inform. The categorization and construction of gender in these two documentaries informs our understanding of gender and the culture within anti-fracking movements. Post-structuralism and ecofeminism are connected in the way they explore power relations and are useful in identifying inequalities between genders. To establish, Gough's second principle, whether gender blindness exists in the two documentaries, ecofeminism allows use to see how we learn about CSG and women within environmental activism.

Ecofeminism, Eco-logics and Teaching and Learning

The intersection of feminism and environmentalism provides a critical analysis of the unjustified suppression of women with the way humanity indiscriminately uses natural resources, and denigrates our environment. Thus environmental issues become conceptually linked with feminist and gender issues. The purpose of referring to ecofeminism in this article is to foreground gender in environmental adult education.

The concept of the male-centeredness of Western culture can be traced from Charlotte Perkins Gilman (1911) in *The Man-Made World: or Our Androcentric Culture* through to Simone de Beauvoir (1952), who identified both women and nature as “other” in patriarchal systems. In 1974, Luce Irigaray labelled the way patriarchy subjects woman to man's domination as “phallic logic” (Glazebrook, 2002, p. 12). In the same year Francoise

d'Eaubonne coined the term, "l'eco-feminisme" to highlight the unsustainability of overpopulation and depletion of resources (Glazebrook, 2002, p. 12). Around the same time social justice grass-roots activism across many continents fuelled the emergence of women's activism in anti-nuclear and peace movements as well as challenging environmental destruction, militarism, corporatism and unsustainable energy production (Gaard, 2011 pp. 27, 28). Ecofeminist theorising draws parallels between the domination of nature and domination of men over women to expose intersections between environment and human culture. As we'll see much of the representations in the two documentaries are about holding a dominant position.

There are two main threads of thinking in ecofeminism, nature and culture. Nature eco-feminism sees women as limited by their biologically determined qualities. Cultural eco-feminism – de-emphasises the 'essential' nature women connection. And, poststructural feminism's contribution is to understand "the mechanics of sexist oppression and the construction of gender categories by relating these to social discourse and conceiving of the subject as a cultural product" (Alcoff, in Stephens, 2013, p. 17). A poststructuralist perspective aims to show how power in our society impacts on equality, how those with a lesser (or no) voice can be heard. In the words of Roy (2004, p.1) "There's really no such thing as the 'voiceless'. There are only the deliberately silenced, or the preferably unheard"

Underscoring ecofeminist theory are value hierarchical thinking; and opposition value dualisms. Both are aspects of phallic logic where preference is given to masculine values. The most obvious value is that male trumps female. Thus 'male' cultural values predominate. Binary 'either – or', value dualisms include: male - female; reason-emotion; reason – nature; public – private; mind – body; production – reproduction; subject – object; self – other (Plumwood, 1993).

To go beyond the binary roles and representation of gender, ecofeminist philosopher, Glazebrook proposes “eco-logics” as an alternative knowledge system in order to break from binary, dualistic, hierarchical androcentric ways of thinking. Glazebrook identifies that eco-logics are inherently gynocentric with essential values of multiplicity, reciprocity, care and partiality, nourishment and guidance, gender inclusivity, an openness to and respect for difference that displaces the logic of domination. Interestingly, Glazebrook argues the inclusivity of eco-logics encompasses phallic logic, but cannot privilege it above other logics “it must share the space with other ways of thinking” (2005, p. 89).

Ecofeminist teaching and learning looks at finding alternatives to androcentric and anthropocentric (i.e. human-centred) environmental education. Overcoming gender imbalance (i.e. equal numbers of women and men represented in any given situation) and gender blindness (i.e. and lack of distinction between sexes that results in exclusion of women) are central themes (see definitions in Burns and Patouris, 2014, p. iv). “Ecofeminist pedagogy” is the term used for both child and adult education. We prefer to use “teaching and learning” rather than “pedagogy” to avoid confusion because the term stems from the Greek word “paid” meaning child.

Clover (1995) argued for a feminist perspective in ‘popular education’ (or ‘informal education’ as described by Merriam and Bierema, 2013). Harvester and Blenkinsop (promote ecofeminism as “one framework from which an educator can disrupt dominant discourses and root metaphors while working to change social conditions and ecological relationships” (2011, p.122). In relation to environmental educational research, Gough and Whitehouse (2003) recognise that traditional epistemological frameworks of scientific research which exclude women as agents of knowledge still operate and influence environmental education research.

We draw on the following threads to inform our understanding of ecofeminist teaching and learning. Clover *et al* describe how women in their environmental education workshops had different ways of knowing with different understandings and explanations of issues. The facilitators developed strategies to ensure women's views were heard. They insist that women are still marginalised and that we "all too often do not hear women's voices and perspectives." (2012 p. 17) Their methods are directed towards the empowerment of all people as agents of hopeful socio-environmental change with critical and creative capacities to be adaptive and resilient in the face of climate change (pp. 26-28).

Harvester and Blenkinsop (2011, p. 121) argue that we are constrained by an anthropocentric (human-centred) paradigm underscored by narratives of the Western Enlightenment tradition in which we focus on school achievement and economic well-being. They say "these narratives ... contribute to a worldview that nurtures ecologically destructive behaviour and work in opposition to a more ecologically just perspective". The search for alternatives to "androcentric" teaching and learning has led to experiments such as those described by Ludlow (2010); Clover *et al* (2012) and Lloro-Bidart (2015). Harvester and Blenkinsop (2011) consider what ecofeminist teaching and learning could look like and propose a utopian "ecofeminist learning village" (p. 128). They consider the three key components of this learning system as authentic dialogue, experiential learning, and a critical philosophical stance (p.126).

Gough (1999) challenges us to break through gender blindness in environmental education by using poststructuralist ecofeminist analysis. Her article *Recognizing women in environmental education pedagogy and research: Toward an ecofeminist poststructuralist perspective* emphasises the voice of environmental education is male dominated (drawn from

Weedon, 1987, Cherryholmes, 1988 and Davis 1994). Consequently, knowledge is shaped by male-orientated voices (1999, pp.152). The next section gives a more detailed overview of the two documentaries before applying Gough's four principles in our analysis of the two Australian anti-CSG documentaries.

Case Study: Overviews of *KN* and *FM* documentaries

KN (2014) combines interviews of members from the original KNAG loop interspersed with commentary by activist educator and academic Aiden Ricketts. The KNAG women are shown explaining their "sit, knit, plot, have a yarn, a cuppa and bear witness" approach to non-violent direct action fighting fracking in situ as they travel to and from protest sites. This is not a linear narrative, rather a montage of themes starting with the determination to protest for as long as needed. In the words of KNAG co-founder, Nanna Clare (*Knitting Nannas*, 2014), "I made a decision that I would keep knitting until we got the mining companies out, not just out of our area, but out of any agricultural land."

KNAG engage in "productive, peaceful protest". They make berets and various forms of yellow and black objects knitted for use as soft barriers at blockades and as pieces of comic commentary. Images include: triangular bunting being attached to landholders gates embroidered with the words, "Knot the Gate"; very long scarves protectively wrapping spaces and people; and a knitted yellow bikini and matching earrings adorning the full-size poster of a local male politician. The KNAG have realised that using their protest time in sitting and knitting has the effect of adding a creative, joyful and calming influence during antagonistic events. Nanna Louise Somerville (*Knitting Nannas*, 2014) states, "The Knitting Nannas have injected levity and smile to a really scary situation where our land, air and water

are threatened”. At blockades the KNAGs offer support to stressed protesters by taking them aside and “having a little chat”. In this way, according to, Aiden Ricketts,

... They help to de-escalate the polarities for people by presenting a much more sober, friendly and approachable face. They’re difficult to demonise as extremists, terrorists, and protesters ... the Nannas haven’t been removed, they represent a strong symbol of how mainstream the (CSG) movement really is... (*Knitting Nannas*, 2014).

FM (2015) follows DP in his journey from “conservative pig-shooter to sophisticated global activist as the “Frackman”ⁱⁱⁱ. DP begins by explaining how he moved from the city to live in a bush setting near Chinchilla (Queensland). After enjoying the serenity of his singular existence, he begins to notice that the rural community and landscape around him are changing due to mining exploration and extraction of CSG.

The documentary^{iv} aims to give audiences the tools to get involved in challenging fracking. It shows DP’s awareness growing as he talks with others. In the search to understand what is really happening he uncovers factual misnomers from politicians, mining companies, and their supporters. DP is supported by numerous others as he transforms throughout the film into the persona of ‘Frackman’- an environmental superhero’s whose costume of a gas mask and white protective overalls is emblazoned with the slogan ‘No Fracking Way’. Eventually burnt-out, DP sells his land to the mining company and leaves the community to set up a new life with his fiancé. He vows to keep fighting but acknowledges that he needs time-out, from the industrialised gas fields surrounding his once home. It is in stark contrast to the productive farming land and bush setting that attracted him to the area.

A poststructuralist ecofeminist analysis of Australian CSG documentaries: applying Gough's four principles



Figure 1. Frackman and the Knitting Nannas Against Gas with other anti-Fracking protesters, (sourced from Frackman The Official Trailer, copyright fair use)

Second Principle: Gender blindness

Our analysis begins with Gough's second principle, "to draw attention to the racism and gender blindness in environmental education" (1999), by examining the representation of women in *FM*^v. The documentary has a mix of genders, but women are predominantly presented within the context of mother earth, nurturing, and secondary to direct action and protests. In the first 20 minutes of the documentary we are introduced to a number of characters both male and female. The protagonist, DP provides a running narrative of Tara, where he lives and the impact of the coal-seam gas industry on this small Queensland community around Chinchilla. The story is accompanied by aerial shots of an agricultural landscape pockmarked with CSG wells, as DP drives past mine workers in high-viz jackets, energy company signage and people shopping in the town. We are then introduced to the first of 16 females in the documentary. The first four women are mothers, with families ranging from two to 11 children. All are married and have lived in Tara and surrounding area for ten years or more. In a four minute segment the four women are separately seen crying,

emotionally distressed, and nursing their children as they list the numerous ailments the family have been suffering since the CSG industry began fracking in Tara.

The only time in the documentary there is gender parity in any power relation comes 45 minutes in. We are introduced to, two female characters, Environmental Consultant, Carmel Flint, and 12 minutes later, Chemical Management Expert, Dr Mariann Lloyd-Smith. Throughout the film DP retains a dominant power/knowledge position. DP learns from the two experts how to gather water samples from the gas wells and processing plants, he continues to drive the narrative, thus educating himself and the audiences about CSG. In between these two 'experts' a ten minute segment of an anti-fracking protest bookends the experts with footage of three women anti-fracking protesters crying, wiping away tears and being comforted by each other- the nursing narrative returns.

The most significant female character, is the fifth female Wendy, who is given the most airtime. Wendy is in DP's own words his "multimedia girlfriend". Wendy is an anti-fracking activist in Pennsylvania, USA, their relationship blossomed over skype, as both Wendy and DP are anti-fracking activists, but there is no equality between the two. Wendy is the only female to have the longest screen time with approximately ten minutes of the film. Within the context of power - DP clearly holds power in the relationship. Wendy supports and defers to DP's insights, and we never learn from her about Fracking. On five separate occasions throughout the documentary Wendy is shown as passive, nurturing, characterized as the love interest, and unequal. Whilst their relationship is founded on learning and sharing knowledge through early Skype sessions about CSG wells and anti-CSG tactics, at no time do we see them as equal in their actions. In contrast DP is shown blockading, gathering samples in camouflage, and stopping traffic with another Australian anti-fracking group, Lock the Gate.

Seeing the film through this ecofeminist lens shows how gender blindness is predominant in the documentary. Except for the two experts, the female in *FM* is represented in the classic binary Plumwood understanding as male/female; strong/weak, powerful/helpless; and paternal/maternal. We argue that gender blindness is evident here in two ways, 1) the women are not involved in the fight, the front line and 2) their position of mother earth, nurturer is reinforced next to DP's stealth manoeuvres along with other males gung-ho attitude. Our analysis foregrounds gender through an ecofeminist lens to show that although *FM* may have educational benefit about the CSG industry, it equally reiterates gender blindness. Once we know it's there, we can find ways to both learn about the subject, i.e. CSG, and also help direct learning about what is missing or unsaid, i.e. how women are represented as silenced and not activists.

DP by his own definition is an 'accidental activist' and he, along with the viewing audience, learn about CSG through a combination of anecdotal evidence from neighboring farmers, and formally from experts. Yet, at no time in the documentary are the female activists represented as equal to DP's actions. We suggest that we can overcome the gender-blindness through a combination of cultural ecofeminism and "eco-logics" (Glazebrook, 2005).

First and Third Principle(s): Knowledge and willingness to listen

In our poststructuralist analysis of *KN* we provide evidence for Gough's first and third principles. A reminder, the first principle states a need to recognise "that knowledge is partial, multiple and contradictory"; whilst the third principle is, "to develop a willingness to listen to silenced voices and to provide opportunities for them to be heard", through an alternative knowledge system in the *KN* documentary. *KN* is also closer to Glazebrook's eco-

logics. KNAG break from the androcentric, hierarchical thinking by drawing on cultural ecofeminist practices in their activism. The KNAG use knitting as a metaphor for empowerment taking it as a strong motif in their narrative. No one woman leads the narrative or media coverage. KNAG has an original core of activists, and within each loop there also exists a small core that works with the founders. Each loop is autonomous from the founders and represents their own local issues, shaping their own narrative dependent on the loop and type of activism (Gough's 1st principle).

The genealogy of knitting as a community protest has been documented as early as the late 18th century. Les Tricoteuses were women who in silent protest at their enforced exclusion from political participation during the French Revolution would knit at the base of the guillotine (Stops, 2014 p. 8). Modern day knitting circles are seen as connecting with craft activism or 'craftivism'. Craftivism, used at the Greenham Common Peace Camp (1982-2000), saw women knitting banners and flags to hang on the fence of the RAF Greenham Common. Yarn Bombing - guerrilla knitting or yarn graffiti is an "attempt to reconfigure the aesthetics of public space. Yet, while many forms of street art struggle to gain legitimacy with unsanctioned works often treated as vandalism yarn bombing's incredible popularity affords it exceptional treatment" (Hahner, & Varda, 2014, p.303). Knitting circles as a form of protest have been called a range of names over the decades, from craftivism, yarn bombing, chicks-with-sticks and the millennium movement 'Stitch'n'Bitch' (Stoller, 2004). The KNAG combine these earlier incarnations of knitting as a protest tool and draw strength from taking domestic (often private) craft-making into a public domain. Their choice of knitting is "a means to an end ... not an end in itself" (Stops, 2014, p 11). The KNAG also use knitting and other collaborative crafting to be inclusive.

The final sequences in *KN* show the eviction by police of Nanna Clare from her platform high up on a tripod construction during the Doubtful Creek Blockade. The police also evicted and ripped to pieces the knitted scarf-like wrapping; a symbol of passive protest. The knitting is rescued and repaired by the women. Nanna Clare philosophically jokes, “It was trespassing; it was very naughty knitting!” (*Knitting Nannas*, 2014 final scene).

This short segment, signals the inclusivity of the KNAGs as they come together to repair the broken scarf through an expression of cultural ecofeminism. There is no reference to gender or unequal power relations. The scarf is anthropomorphised as an activist and part of the team. The item is an analogy for the inclusivity of the movement evident throughout the documentary. The iconography symbolises symbioses with the past, and collaboration between likeminded endogenous women learning about CSG, protest tactics and strategies. Gough’s third principle in their willingness to listen to earlier silenced voices and the knitting action provides opportunities for them to be heard and learn.

Fourth Principle: Understanding of the stories through environmental adult education processes

Gough’s fourth principle –“to develop understandings of the stories of which we are part and our abilities to deconstruct them” can be seen in the educative processes of both documentaries. Comparing the two documentaries and the corresponding movements, our analysis will now show that environmental activism documentaries are useful educational tools to shape knowledge about CSG. In *FM* women are represented through biologically determined qualities; in *KN* there is equality and collegiality. Women cry in *FM*, but in *KN* they laugh, joke and mock through satire and humour. KNAG are acknowledged as a valued contributor to the activism, they are agentic in their own right in their role of visible and

vocal older women. Ultimately, *FM* documents one man’s journey that leads DP to burn out

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and walk away from the issue. In contrast, the KNAG approach of cultural ecofeminism is proving to be successful as they continue to grow. KNAG have a more sustainable and inclusive approach based on mutuality and valuing individual difference, by sharing and hearing on another's stories. .

There is much in *FM* showing DP learning journey. It demonstrates typical application of adult learning principles outlined earlier within a context of informal environmental education. DP begins by feeling uncomfortable about changes in the landscape around him in Tara and refuses to allow gas exploration on his property. Through questioning how and why things are changing DP begins accessing information online, asking experts, networking and discussing findings with others. There are scenes where DP engages in learning that is self-directed, experiential. Through personal reflection and social interactions he gains insights that lead to transformative learning. However, in attributing an entire community environmental activist campaign to one primary actor, this film misses the mark. It fails to tell the full story of community collaboration (and learning) required to successfully protest, blockade and challenge the extractive industry's agenda.

KN provides a fuller picture. KNAG members learn from one another collectively, sharing conversation and insights and they describe themselves as one element of a total anti-CSG activist movement. They resemble a "community of practice" as they deepen their knowledge and expertise through ongoing interaction with one another and other protesters (Wenger, McDermott & Snyder, 2002 pp. 4, 5). Both documentaries show elements of the Clover *et al* (2012) definition of environmental adult education towards "learning to actively champion for the environment"; however the *KN* inclusivity goes further.

We are aware that this analysis has limitations. It has not yet been used to provide empirical data in an informal educational setting to assess the same audience's reaction to

both documentaries. Possible research questions driving future studies are an analysis of what women say and do; compared with what men say and do in each of these documentaries followed by a facilitated debrief. We also consider whether the KNAG approach to engaging older women as environmental activists has potential as an ecofeminist learning system. We name this “Nannagogy” and plan to undertake further research.

Conclusion and Implications for Environmental Adult Education in the 21st Century

In our poststructuralist analysis through an ecofeminist lens we have sought to find out ‘What and how the adult characters are learning?’; ‘Is there evidence of power dynamics between the genders? And ‘Is there any evidence of gender blindness?’ This article shows how *FM* reinforces and reiterates that we understand environmental activist education from a male orientated position. By contrast, the actions of KNAG present a methodology of creative relationship building, where they set up emotionally safe spaces that counteracts oppositional behaviours. KNAG members gently manipulate by listening and creating a nurturing space that is beyond biological power. Exploring gender in these two films shows that women in *KN* are more inclusive than their counterparts in *FM*. This article is the start of an important conversation in realising the practical application of poststructuralist ecofeminist teaching and learning. It points the way forward to more investigation of gynocentric forms of environmental activism in order to better understand adult education in these contexts.

We started this article with a challenge to find ways to be more inclusive, unpack power relations and avoid gender blindness in environmental education. We position the article in line with the UNFCCC (2012) - it is no longer viable to ignore gender issues in tackling the challenges of climate change. In our analysis we have shown that taking a

natural biological representation of women in environmental education only serves to reinforce the already dominant biological binary position - whereas the cultural ecofeminist position has been successful in achieving the inclusivity of the *KN* documentary. In environmental education generally and adult education specifically there is an urgent need to build capacity at all levels i.e. amongst the general community and within professionals working in communities to ensure everyone's voices are heard. We now ask you to accept the challenge and as environmental educators - to avoid the trap of gender blindness and identify the role of power relations. Glazebrook's eco-logics (2005) provide for this. By doing this we will all be able to adopt and develop the Clover *et al* (2012) definition of environmental adult education.

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NOTES

ⁱ Statistics sourced from <http://tara.localstats.com.au/demographics/qld/western/south-western/tara>

ⁱⁱ Conference of Parties (CoP) is an annual meeting of States that are Parties to the UN Convention on Climate Change.(see <http://unfccc.int/bodies/body/6383.php>)

ⁱⁱⁱ Sourced from *Frackman*, <http://frackmanthemovie.com/about>)

^{iv}Both films gained positive community reactions. The Knitting Nannas premiered at the Sydney Flickerfest Green Flicks (2013, Finalist and Highly Commended); it won the Popular Choice award, Byron All Shorts Film Festival 2014. It is freely available online through Vimeo. There are also Internet references to it being shown in Lismore (2014); in the Blue Mountains as part of World Heritage Day celebrations in Katoomba & at Blackheath (2014); and more recently World Community Film Festival 2016 <http://www.worldcommunity.ca/film-festival/> Courtenay, British Columbia, Canada 25 when it was launched to coincide with the 2015 NSW State elections^{iv}. Mainstream media reports indicated the impact was enduring with children writing about CSG and dressing up as Frackman at school events and protests.

^v We are not focusing at all on racism, but we can see there is clear indication of gender-blindness in the representation of the female.